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ABSTRACT

The tendency to base educational decisions on criteria established by past policy-making has particularly serious ramifications when viewed in the context of the rapid social change expected in the latter part of the 20th century. In 1973 the Skyline Wide Educational Plan, the research component of the Dallas-Fort Worth Metroplex Project for Planning a Secondary School of the Future, cooperated with the RAND Corporation of California to survey a group of national experts on 184 futuristic societal propositions. The survey yielded possible vignettes of future society, which could then be used as a basis for educational planning. The program's hypotheses concerning course design, curriculum, and school management all reflect one basic operational principle: The challenge of maintaining an educational system that remains responsive to the altering student population will increase exponentially with the advance of expanding technology in other fields. The means by which this conclusion was arrived at, the method of results evaluation, a sample of the survey questionnaire, and a statistical listing of the results are appended. (LH)

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FUTURISTIC FORECASTING: CALCULATED CURRICULUM RELEVANCE (USING THE METHODS OF THE FUTURIST AS A FORECASTING TECHNIQUE)

DR. GERALD N. KING

FIRST MEETING OF THE EDUCATION SECTION OF THE WORLD FUTURE SOCIETY
OCTOBER 20-22, 1978

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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IN HIS BOOK, LEARNING FOR TOMORROW, ALVIN TOFFLER STATES, "ALL EDUCATION SPRINGS FROM SOME IMAGE OF THE FUTURE; IF THE IMAGE OF THE FUTURE HELD BY A SOCIETY IS GROSSLY INACCURATE, ITS EDUCATIONAL SYSTEM WILL BETRAY ITS YOUTH". TOFFLER THEN PROCEEDS TO DESCRIBE AN INDIAN TRIBE LIVING ON THE BANKS OF A LARGE RIVER. THE TRIBE HAD, FOR GENERATIONS, ACHIEVED ITS LIVELIHOOD FROM THE RIVER THROUGH FISHING, FARMING, AND OTHER NECESSARY PURSUITS, AND THE TRIBESMEN APPROPRIATELY TEACHING THEIR YOUNG PEOPLE THE SKILLS NECESSARY TO MAINTAIN LIFE USING THE RESOURCES OF THE RIVER. CATASTROPHICALLY, HOWEVER, UNBEKNOWN TO THE CHIEFS OF THE TRIBE, THE WHITE MAN WAS BUILDING A LARGE DAM SEVERAL HUNDRED MILES UPSTREAM WHICH WOULD DRY THE RIVER DURING CERTAIN SEASONS OF THE YEAR. AS A RESULT, THE INDIAN TRIBE WAS PERPETUATING AN EDUCATIONAL SYSTEM THAT WOULD EVENTUALLY BETRAY ITS YOUTH.

EDUCATORS TODAY SOMETIMES CONSCIENTIOUSLY ERR IN EMULATING THE INDIAN TRIBE IN PERPETUATING EDUCATIONAL SYSTEMS THAT NO LONGER WILL SERVE AMERICAN YOUTH AS THEY PROCEED INTO ADULT LIFE. HOW CAN WE, AS EDUCATORS, ELIMINATE THE PROFESSIONAL HAZARD OF TEACHING CONCEPTS AND SKILLS THAT WILL EVENTUALLY BE USELESS TO OUR STUDENTS' FUTURE WORLD?

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UNIVERSALLY, PEOPLE LOOK TO THE FUTURE WITH CONSUMING INTEREST IN WHAT WILL HAPPEN TOMORROW, THE DAY AFTER TOMORROW, NEXT YEAR, OR "WHEN I AM OLD". ONE SAGE HAS APPROPRIATELY OBSERVED, "I MUST BE INTERESTED IN THE FUTURE BECAUSE I WILL SPEND THE REST OF MY LIFE THERE". INTEREST IN THE FUTURE SEEMS TO BE A FRAME OF MIND CONSISTENT AMONG HUMANKIND.

PEOPLE CONSIDER THE FUTURE IN BASICALLY THREE DIFFERENT WAYS. ONE IS CONVEYED IN THE SONG MADE FAMOUS MANY YEARS AGO BY DORIS DAY, "QUE SERA, SERA", WHAT WILL BE, WILL BE, OR, CONCEPTUALLY, ONE HAS NO CONTROL OVER THE FUTURE. IT WILL COME, AND ONE MUST MAKE THE BEST OF IT. THE PERSON WITH THIS ATTITUDE IS, ESSENTIALLY, A FATALIST. A FATALIST BELIEVES THAT HE HAS NO CONTROL OVER HIS LIFE AND SIMPLY HOPES FOR THE BEST.

A SECOND WAY OF CONTEMPLATING THE FUTURE MAY BE TERMED "THE CRYSTAL BALL AND THE FORTUNE TELLER". THE FORTUNE TELLER DESCRIBES FUTURE EVENTS THAT WILL OCCUR, EITHER IN GENERAL OR IN THE SPECIFIC LIFE OF A PARTICULAR PERSON. THEN, ASSUMING WHAT THE FUTURE HAS IN STORE, THE PERSON BEGINS TO PREPARE FOR THE FUTURE WHEN IT ARRIVES. IN THIS SITUATION, AGAIN, THE INDIVIDUAL HAS NO PARTICULAR INFLUENCE ON THE FUTURE, WITH THE EXCEPTION THAT HE CAN MAKE SOME PREPARATIONS TOWARD THE FUTURE TO AVOID "FUTURE SHOCK".

THE THIRD WAY OF VIEWING THE FUTURE IS ONE IN WHICH THE INDIVIDUAL BELIEVES THE FUTURE HAS MANY ALTERNATIVES AND THAT ONE CAN MAKE DECISIONS TO STEER HIMSELF INTO THE ALTERNATIVES WHICH HE WISHES TO TRANSPIRE. THIS IS AKIN TO THE "SELF-FULFILLING PROPHECY" WHEREBY A PERSON MAKES A PREDICTION AND THEN BEGINS TO MAKE DECISIONS ACCORDINGLY SO THE PREDICTION WILL COME TO PASS.

MANY POETS HAVE CREATED VERSES ABOUT THIS WAY OF PERCEIVING LIFE; "INVICTUS" BY WILLIAM ERNEST HENLEY STATES, "I AM THE CAPTAIN OF MY FATE; I AM THE MASTER OF MY SOUL". MOST PROFESSIONAL COUNSELORS ADVISE MAKING DECISIONS AND PLANNING LIFE TO BECOME WHAT ONE WANTS TO BECOME. WHEN ONE SETS HIS FOOT TO THE PATH AS A COLLEGE FRESHMAN, HE DOES SO WITH AT LEAST AN INKLING IN HIS MIND TOWARD GRADUATION AND ATTAINING A DEGREE IN THE NOT TOO DISTANT FUTURE. THE ENTIRE IDEA OF PLANNING INDIVIDUAL ACTIVITIES IS BASED ON THE CONCEPT THAT ONE CAN ACTUALLY CAUSE A FUTURE EVENT TO OCCUR AS HE DESIRES.

IT IS THIS THIRD METHOD OF VIEWING THE FUTURE THAT THE FUTURIST USES AS HIS BASIC PREMISE UPON WHICH TO MAKE FORECASTS. ESSENTIALLY, HE BELIEVES THAT, IF ONE IS ABLE TO TAP THE PREDISPOSED FRAMES OF MIND OF MAJOR DECISION-MAKERS THROUGHOUT A GIVEN POPULATION, THE FUTURE COURSE OF THAT POPULATION CAN BE FAIRLY WELL-CHARTED. AN EXAMPLE MIGHT INCLUDE THE MANY DECISIONS MADE BY THE PRESIDENT OF THE UNITED STATES TODAY THAT WILL CONTINUE TO HAVE IMPACT FOR 15 TO 20 YEARS. FOR INSTANCE, THE TONKIN BAY DECISIONS MADE BY PRESIDENT LYNDON JOHNSON IN THE EARLY 1960'S, WHICH RESULTED IN THE GULF OF TONKIN RESOLUTION BY CONGRESS IN AUGUST, 1964, ARE HAVING IMPACT UPON PRESIDENT JIMMY CARTER TODAY. EVENTS ARE OCCURING TODAY THAT WILL INFLUENCE SOCIETY FOR MANY YEARS. FOR EXAMPLE, WHEN A BOARD OF EDUCATION EMPLOYS A TEACHER, IT MAKES A LONG-TERM DECISION THAT, HOPEFULLY, WILL HAVE BENEFICIAL IMPACT ON THE SCHOOL DISTRICT'S OPERATIONS FOR MANY YEARS TO COME. THESE KINDS OF DECISIONS HAVING LONG-TERM IMPACT MUST BE CONSIDERED FUTURISTIC DECISIONS. ENOUGH LONG-RANGE DECISIONS

FIT TOGETHER WITH THEIR COMBINED EFFECTS ARE GOOD PREDICTORS OF THE COMPOSITE FUTURE PLAN OF THE ORIGINATORS. THE FUTURIST, THEREFORE, ATTEMPTS, IN ONE WAY OR ANOTHER, TO ASCERTAIN THE PREDISPOSITIONS OF THE MAJOR DECISION MAKERS IN ORDER TO CONCEPTUALIZE THE ALTERNATIVE FUTURES IN TERMS OF THOSE DECISION MAKERS.

THE FUTURIST DOES NOT COMPLETELY IGNORE THE "QUE SERA, SERA", OR THE "CRYSTAL BALL" ASPECTS OF THE FUTURE. THERE ARE, OF COURSE, UNPREDICTABLE FUTURE EVENTS ONE CANNOT FORECAST THAT ARE INEVITABLE; HOWEVER, IT IS THE GENERAL PREMISE OF THE FUTURIST THAT THE FUTURE CAN BE SHAPED AND THAT TOMORROW RESULTS FROM TODAY'S DESIRES AND RESULTING DECISIONS.

DESCRIBING THE FUTURE--DALLAS STYLE

IN JUNE, 1973, THE U. S. OFFICE OF EDUCATION--AS A PART OF ITS CONTINUING EFFORTS TO PROVIDE QUALITY INTEGRATED EDUCATION --GRANTED FUNDS TO THE DALLAS INDEPENDENT SCHOOL DISTRICT FOR PLANNING A REGIONAL "SCHOOL OF THE FUTURE". IN PART, THE GRANT RESULTED FROM THE DISTRICT'S EXPERIENCE IN IMPLEMENTING SKYLINE CENTER, A NATIONALLY RECOGNIZED EFFORT IN PIONEERING CAREER EDUCATION. AT THE OUTSET, THE INTERDISTRICT STAFF THAT WAS ASSEMBLED FOR THE PLANNING PROJECT REALIZED THAT A SCHOOL OF THE FUTURE--ITS PROGRAMS, STAFF AND FACILITIES-- COULD BE DESIGNED ONLY WITH "KNOWLEDGE" OF THE FUTURE.

THE SKILLS AND KNOWLEDGE THAT NEED TO BE TAUGHT IN THE TIME PERIOD 1980-2000 WILL BE MEANINGFUL ONLY IF THERE BE CAREER FIELDS THAT REQUIRE SUCH SKILLS AND KNOWLEDGE. THE

SOCIAL KNOWLEDGE THAT NEED BE INSTILLED WILL BE USEFUL ONLY IF IT HAS A TIMELY AND SIGNIFICANT MEANING IN THE BEHAVIORAL AND OTHER COMMUNITY CONDITIONS THAT WILL EXIST. WHY PLAN A PROGRAM, STAFF, AND FACILITIES FOR TEACHING DIESEL MECHANICS IF THE FOSSIL FUEL SHORTAGES FORECAST BY SOME WILL MAKE DIESEL ENGINES OBSOLETE BY TIME THE SCHOOL OPENS? WHY PLAN MASSIVE, COSTLY SCHOOL FACILITIES FOR SIMULTANEOUS TEACHING OF THOUSANDS OF STUDENTS DURING SELECTED HOURS OF THE DAY AND MONTHS OF THE YEAR, WHEN THE FORECASTED ECONOMICS, YEAR-ROUND VACATION POSSIBILITIES, AND STAGGERED WORK SCHEDULES SUGGESTS THAT PERHAPS A CONSTANT FLOW OF STUDENTS THROUGH RELATIVELY SMALL, MULTIPURPOSE LEARNING CENTERS WOULD BE A MORE EFFECTIVE TEACHING STRATEGY.

IT WAS APPARENT TO ALL CONCERNED THAT NO PLANNING SHOULD TAKE PLACE UNTIL THE ALTERNATIVE POSSIBLE FUTURES FOR THE SOCIETY WHICH THE SCHOOL WOULD SERVE COULD BE DESCRIBED--A TALL ORDER FOR A STAFF THAT WASN'T ISSUED A CRYSTAL BALL WITH ITS EQUIPMENT AND WHICH DID NOT HAVE A BONA FIDE PROPHET AS A MEMBER OF THE STAFF. I'D LIKE TO TELL YOU THE STORY OF HOW THAT PICTURE OF THE FUTURE--THE YEARS 1980-2000--WAS DEVELOPED BY THE STAFF, AND HOW, IN RETROSPECT, IT WAS POSSIBLY THE MOST ACCURATE PICTURE POSSIBLE.

MERELY QUESTIONING EXPERTS WAS UNLIKELY TO PROVIDE THE ANSWERS NEEDED, BECAUSE COUNTLESS UNCORRELATED AND NONINTERRELATED ANSWERS WOULD BE PRODUCED IN PROGNOSTICATION OF AN ABSTRACT FUTURE. FOR EXAMPLE, TWO EXPERTS IN THE SAME FIELD MIGHT INTERPRET THE SAME QUESTION IN TWO OR MORE DIFFERENT WAYS; CERTAIN QUESTIONS COULD HAVE MORE THAN ONE

ANSWER; AND, PERHAPS MOST SERIOUS OF ALL, WHAT WAS TO GUARANTEE THAT THE PROPER QUESTIONS WERE ASKED?

THE ANCIENTS USED MANY METHODS FOR INQUIRING ABOUT THE FUTURE. ONE OF THESE WAS THE CONSULTING OF ORACLES OR DISEMBODIED SPIRITS. EACH SPIRIT "HAUNTED" A PARTICULAR LOCATION. PROBABLY THE MOST FAMOUS, BECAUSE OF THE ACCURACY OF HER PREDICTIONS, WAS THE ORACLE THAT MANIFESTED HERSELF AS A DEEP, RESONANT FEMALE VOICE IN A CAVERN NEAR DELPHI, GREECE. (WE KNOW MOST ABOUT THE ORACLE OF DELPHI THROUGH THE WRITINGS OF HOMER).

THE PROJECT STAFF DIDN'T CHOOSE TO SOLVE ITS "QUESTIONS AND ANSWERS ENIGMA" BY SEEKING THE ORACLE OF DELPHI, BUT DID TURN TO WHAT MAY BECOME AN EQUALLY DRAMATIC, MODERN-DAY EQUIVALENT. THIS IS THE DELPHI FORECASTING METHOD--NAMED AFTER THE FAMOUS ORACLE BY A WIT, PERHAPS IN LIEU OF HIS DESIGNING AN ACRONYM TO NAME THE METHOD.

THE DELPHI FORECASTING METHOD WAS DEVELOPED INTO ITS PRESENT FORM, FOR THE MOST PART, THROUGH EFFORTS OF THE RAND CORPORATION OF SANTA MONICA, CALIFORNIA. RAND IS A HIGH-POWERED, DEPARTMENT OF DEFENSE-SPONSORED ORGANIZATION OF EXPERTS WHO PROVIDE PRIMARILY POLITICAL AND SOCIOECONOMIC INPUTS FOR THE FORMULATION OF LONGER RANGE MILITARY STRATEGY. IT IS OBVIOUS THAT AN ORGANIZATION LIKE RAND COULD FIND MUCH VALUE IN, AND PUT MUCH EFFORT TOWARD, A MORE RELIABLE METHOD OF FORECASTING FUTURE EVENTS.

NOW NO ONE REALLY CAN FORETELL THE FUTURE. THAT CERTAIN THINGS WILL HAPPEN, LIKE NIGHT FOLLOWING DAY, IS OBVIOUS TO THOSE WHO HAVE EVIDENCE FOR THIS. A PERSON WHO HAS BEEN

BLIND FROM BIRTH HAS LESS CONFIDENCE IN DISCRIMINATING BETWEEN DAY AND NIGHT. IN OTHER WORDS, OUR CONFIDENCE INCREASES WITH OUR EXPERIENCE. IT IS FOR THIS REASON THAT THE PROJECT STAFF SOUGHT INFORMATION CONCERNING THE FUTURE FROM PERSONS WHO HAD EXPERIENCE IN PREDICTING EFFECTS THAT WOULD STEM FROM THE VARIETY OF PARTICULAR CAUSES THAT COULD LIKELY OCCUR. SINCE EACH EFFECT COULD BECOME A CAUSE FOR A SUCCEEDING EVENT, AN ENTIRE FUTURE COULD BE PROJECTED USING, AS STARTING POINTS, THOSE MORE "CURRENT EVENTS" IN WHICH WE HAVE MOST CONFIDENCE. THAT THE WORLD IS EXPERIENCING A POPULATION EXPLOSION IS ONE SUCH CURRENT EVENT. THAT ORGANIZED BIRTH-CONTROL EFFORTS ARE UNDERWAY IS ANOTHER. LACK OF TIME PROHIBITS MY DESCRIBING THE SELECTION PROCEDURES, BUT SUFFICE IT TO SAY THAT A GROUP OF NATIONAL EXPERTS WAS ENPANELED TO HELP US WITH OUR TASK.

HAND OUT

OF THE 184 FUTURISTIC SOCIETAL PROPOSITIONS ASSESSED BY THE PANEL, 40 WERE CONSIDERED HIGHLY LIKELY TO OCCUR IN THE DECADE OF THE 1980's. TWENTY-FOUR OF THESE EVENTS, ACCORDING TO THE PANEL, WOULD HAVE CONSIDERABLE IMPACT ON EDUCATION.

LET'S, FOR A MOMENT, THINK TOGETHER REGARDING THE IMPACT OF SEVERAL HIGH-PROBABILITY EVENTS THAT, ACCORDING TO THE PANEL OF EXPERTS, WILL OCCUR SOMETIME DURING THE DECADE OF THE 1980's AND REFLECT ON THE EDUCATOR'S RESPONSE TO THESE EVENTS AS THEY OCCUR IN TERMS OF CURRICULUM, TEACHER TRAINING, AND TEACHING STRATEGIES OR METHODS THAT MIGHT BE APPROPRIATE ASSUMING THAT THE EVENT DOES OCCUR. I THINK MOST OF YOU WILL AGREE, AS I READ THE EVENTS, THAT THERE IS LITTLE ARGUMENT THAT THEY WILL OCCUR. THE ARGUMENT, IF ANY, WILL REVOLVE

AROUND THE POSSIBLE RESPONSE THAT THE EDUCATIONAL COMMUNITY WILL MAKE TO THE EVENT.

THE EVENT HAVING THE GREATEST POSSIBILITY, ACCORDING TO OUR PANEL OF EXPERTS, OF OCCURING DURING THE DECADE OF THE 1980's IS "INFORMATIONAL HANDLING WILL BE MORE AUTOMATED". MANY OF US HAVE HAD EXPERIENCE WITH COMPUTER-BASED MANAGEMENT INFORMATION SYSTEMS. MANY LIBRARIES ARE ALREADY COMPUTERIZING THEIR CARD CATALOGUES IN ORDER TO MAKE THE IDENTIFICATION AND RETRIEVAL OF BOOKS MORE EFFICIENT, AND COMPUTER TECHNOLOGY IS REACHING THE POINT WHERE EACH INDIVIDUAL MAY, IF HE DESIRES, HAVE HIS OWN PERSONAL COMPUTER THAT COULD PROVIDE HIS OWN MANAGEMENT INFORMATION SYSTEM FOR BILL PAYING, GROCERY SHOPPING AND INCOME TAX RECORDS. IN ENGLAND THERE IS AN EXPERIMENT BY THE BBC OF DISPLAYING THE DAILY NEWSPAPER OVER TELEVISION RATHER THAN PRINTING IT AND DELIVERING IT TO THE HOME ON A PAPER FORMAT. THESE ARE OCCURENCES IN OUR SOCIETY. WHAT RESPONSE DO WE, AS EDUCATORS, MAKE TO THIS SOCIETAL INNOVATION IN TERMS OF CURRICULUM, IN TERMS OF TEACHER TRAINING, AND IN TERMS OF TEACHING METHODS. IN A VERY FEW MINUTES, THE GROUP HERE ASSEMBLED COULD PUT THEIR COLLECTIVE BRAINPOWER TO WORK AND COME UP WITH A LIST OF PERHAPS 100 OR MORE APPROPRIATE RESPONSES THAT WE, AS EDUCATORS, SHOULD PLAN FOR THE FORESEEABLE FUTURE IN ORDER TO MEET THE NEED THAT WILL BE CREATED BY THESE NEW INNOVATIONS.

A SECOND EVENT CONSIDERED BY THE PANEL TO BE OF HIGH LIKELIHOOD OCCURENCE DURING THE DECADE OF THE 1980's WAS "THE PERCENTAGE OF THE FEMALE POPULATION WORKING FOR PAY WILL HAVE INCREASED". I THINK FEW OF US WOULD ARGUE THAT IT WILL

OCCUR. WHAT DOES IT MEAN TO US, AS EDUCATORS, IN TERMS OF EARLY CHILDHOOD EDUCATION, IN TERMS OF DAY CARE BOTH PRIVATE AND PUBLIC, IN TERMS OF OUR CURRENT CURRICULUM OF HOMEMAKING AND OTHER FEMALE-ORIENTED CLASSES, AND IN TERMS OF THE COUNSELING THAT WILL BE GIVEN TO YOUNG LADIES IN TERMS OF CAREER PREPARATION AND COURSE SELECTION? AGAIN, IN A VERY SHORT TIME THE COLLECTIVE WISDOM OF THIS GROUP COULD ENUMERATE SEVERAL FIRST-AND SECOND-ORDER CONSEQUENCES OF THE EVENT OCCURING DURING THE 1980's. LET'S DISCUSS ONE ADDITIONAL EVENT THAT WILL PROVIDE FOR THE GROUP THE LAST EXAMPLE THAT WE WILL DISCUSS TODAY. IT WAS A HIGH-LIKELIHOOD, HIGH-IMPACT EVENT AS DETERMINED BY THE PANEL OF EXPERTS: "THERE WILL HAVE BEEN UNEXPECTED BREAK-THROUGHS IN THE PHYSICAL SCIENCES AND TECHNOLOGY WITH POTENTIAL FOR PROFOUND CONSEQUENCES FOR SOCIETY (COMPARABLE, FOR EXAMPLE, TO THE DISCOVERY OF PENICILLIN, THE DEVELOPMENT OF THE COMPUTER, AND THE BIRTH-CONTROL PILL)". THOSE OF US WHO ARE OVER THE AGE OF 40 CAN RECALL WHEN NEPHRITIS WAS A FATAL DISEASE. SUBSEQUENTLY, THE DIALYSIS MACHINE WAS INVENTED AND IT WAS POSSIBLE FOR THOSE WITH FAILING KIDNEYS TO GO THROUGH THE DIALYSIS PROCESS TO EXTEND THEIR LIFE. JUST RECENTLY, I HEARD ON RADIO OF A DISCOVERY BY WHICH THOSE SUFFERING FROM KIDNEY FAILURE COULD TAKE A PILL TO ELIMINATE THE NEED FOR DIALYSIS IN SOME PATIENTS AND REDUCE THE FREQUENCY FOR OTHERS. HOPEFULLY, AS THE SCIENTISTS CONTINUE THEIR EFFORTS IN THE AREA OF KIDNEY DISEASE AND FAILURE, IT WILL BE POSSIBLE TO TOTALLY ELIMINATE THE CONSEQUENCES OF KIDNEY FAILURE. MOST OF US CAN RELATE SIMILAR CIRCUMSTANCES FOR MANY DISEASES--INFANTILE PARALYSIS, HEART DISEASE, CERTAIN KINDS OF CANCER, ETC. WE ARE TOLD

THAT A MAJOR PORTION OF DRUGS THAT ARE AVAILABLE FOR THE PHYSICIAN TO HELP CURE DISEASES TODAY WERE UNAVAILABLE JUST 10 YEARS AGO AND WE ARE ALSO TOLD THAT THIS RATE OF CHANGE WILL ONLY ACCELERATE OVER THE NEXT 10 TO 20 YEARS. THE SAME IS TRUE WITH OTHER TECHNOLOGIES. IS THERE ANYBODY HERE, FOR EXAMPLE, WHO WOULD NOT PREDICT THAT THE SCIENTISTS WORKING ON THE PROBLEMS OF SOLAR ENERGY: ITS CAPTURE, STORAGE, AND DISTRIBUTION, WOULD NOT HAVE MADE GREAT STRIDES BY THE TURN OF THE CENTURY? AGAIN, THE COLLECTIVE WISDOM OF THE GROUP COULD CONJURE SEVERAL HUNDRED RESPONSES THAT WILL HAVE TO BE MADE BY EDUCATIONAL DECISION-MAKERS AS IT RELATES TO NEW TECHNOLOGY OVER THE NEXT TWO DECADES. WHAT DOES THIS MEAN AS FAR AS TEACHER EDUCATION, CURRICULUM DEVELOPMENT, AND TEACHING METHODS, TO THOSE OF US WHO WILL BE MAKING THE DECISIONS OVER THE NEXT 20 YEARS? HOW WILL IT AFFECT MANAGEMENT STYLE, THE WAY WE INTERACT WITH COWORKERS, THE KINDS OF DECISIONS WE WILL HAVE TO MAKE, AND SO ON?

IT BOILS DOWN TO ONE BASIC CONCEPT; THAT IS, ALL DECISIONS HAVE THEIR IMPACT IN THE FUTURE AND SHOULD THEREFORE BE MADE WITH THE FUTURE IN MIND. IT WAS LAVERNE CUNNINGHAM WHO SAID, "ALL TOO OFTEN EDUCATORS MAKE DECISIONS LOOKING THROUGH THEIR REARVIEW MIRROR RATHER THAN WITH THEIR HEADLIGHTS". ALL TOO OFTEN WE MAKE DECISIONS BASED ON THINGS THAT HAPPENED YESTERDAY RATHER THAN ON THINGS THAT WILL HAPPEN TOMORROW. VERY OFTEN, IT IS EXACTLY THE SAME DECISION, BUT THE ORIENTATION MUST BE TO THE FUTURE RATHER THAN TO THE PAST. I CHALLENGE THOSE OF YOU HERE TODAY TO BECOME EDUCATIONAL FUTURISTS. MAKE DECISIONS BASED ON WHAT WILL HAPPEN TO OUR CHILDREN NEXT YEAR AND IN

THE NEXT DECADE AND IN THE NEXT CENTURY, RATHER THAN ON WHAT YOU DID WHEN YOU WERE A KID. THE THEME OF THIS CONVENTION "LEARNING IS BASIC" IS PIERCINGLY APPROPRIATE. HOWEVER, IT IS OUR RESPONSIBILITY TO HELP OUR PUBLICS DEFINE WHAT IS BASIC, AND BASIC EDUCATION IN THE YEAR 2000 WILL BE MUCH DIFFERENT THAN BASIC EDUCATION IN THE YEAR 1950. I KNOW THAT, AND YOU KNOW THAT, AND IT IS OUR RESPONSIBILITY TO HELP OUR PATRONS KNOW THAT. I WISH YOU LUCK IN YOUR ENDEAVORS. THANK YOU.

SKYLINE WIDE EDUCATIONAL PLAN

(SWEP)

A

PROJECT FOR PLANNING

THE SECONDARY SCHOOL OF THE FUTURE

TO SERVE

THE DALLAS-FORT WORTH METROPLEX

Sponsored by

THE OFFICE OF EDUCATION

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

dallas independent school district

dallas independent school district

October, 1974

Nolan Estes
[illegible]

Dear Colleague:

For years education has played "catch up" with the demands of society at work. We taught, or placed emphasis on, those ideas and subjects which businesses needed their employees to know or which colleges required for entrance. But industry has made tremendous advances; college is not for everyone; and teenagers want to work as soon as they graduate. So, again education finds itself following rather than leading.

Project SWEP (Skyline West Educational Plan) was created to determine what a secondary school should be like in the two decades between 1980 and 2000. Such forecasting is difficult for any group, but particularly difficult for one studying a field which is not clearly defined in 1974.

Our problem was to determine the society of those two decades, then to design a curriculum to meet that society. There will, of course, be certain needs that the educational process must meet—skills, attitudes, traditions, knowledge and values. While we realize our acute responsibility to the coming society, we also are aware that the public schools reach only so far, and that other operations and media must assume jobs of training and guidance, also. Our responsibility is great, though, and we will neither shun it nor neglect it.

We have tried to define in this study the needs which fall on our shoulders, specifically in the area of the secondary school, and have outlined specific programs—including staff description, student population and facilities—which hopefully will stand up to the demands of the 1980s and 1990s.

We hope you find this volume interesting and informative.

Sincerely,

Nolan Estes

Nolan Estes
General Superintendent

NE:lf

3700 Ross Avenue Dallas, Texas 75204 214 824 1620

SKYLINE WIDE EDUCATIONAL PLAN

SWEP

A project for planning the school of the future to serve the Dallas-Ft. Worth Metroplex.
Sponsored by the U. S. Office of Education

November 26, 1973

Dear Fellow Planner:

Thank you for indicating your willingness to participate in our planning survey. We are sending you a Future Society questionnaire and an envelope for its return. We will appreciate your prompt reply. Why not read and mark your form right now?

To avoid overloading you, we are sending out two versions of the survey (Form A and Form B), covering different statements in the same broad categories. Each form has 92 propositions for you to react to, and space at the end for you to add ideas of your own.

The description of the future generated by this survey will be mailed to you in January. In order to record receipt of your form and to maintain our mailing records, we are using an I. D. number, shown in the upper right corner of the form. For analysis, forms will be handled without other identification, to assure confidentiality.

We will welcome any comments (pro or con) and suggestions you care to make. Thank you for your interest and your help.

Very truly yours,

Gerald N. King

Gerald N. King
Deputy Assistant Superintendent
SWEP Project Director

GNK:sp

P. S. Please return the completed questionnaire within one week.

Write: Suite 302-303
2218 Bryan Street
Dallas, Texas 75201

SAMPLE QUESTIONNAIRE

Following is a list of propositions regarding future society in the United States. They are the result of several months intensive research of the futuristic literature. Each proposition included in the questionnaire is traceable to either a prominent futuristic authority, or a logical source.

Concerning the propositions, we need two opinions from you:

1. The likelihood that these events will come to pass in the decade of the 1980's, and

2. The impact they will have on public education if they come to pass.

The "LIKELIHOOD OF OCCURRENCE" scale is in the left margin, and the "EDUCATIONAL IMPACT" scale is in the right margin. Please examine the scoring procedures in the sample provided below.

PROPOSITIONS REGARDING AMERICAN SOCIETY FOR THE 1980's

LIKELIHOOD OF OCCURENCE	EDUCATIONAL IMPACT
0 = no opinion	0 = no opinion
1 = low likelihood	1 = little impact
2 =	2 =
3 =	3 =
4 =	4 =
5 = high likelihood	5 = great impact

OCCURRENCE SCALE		IMPACT SCALE
5	1. By the decade of the 1980's very few public schools in the United States will be segregated on the basis of race.	5

NOTE! The "5" in the left column indicates that this event will most likely occur, and the "5" in the right column indicates that when it occurs it will have high impact for education.

I. D. Number _____

SKYLINE WIDE EDUCATIONAL PLAN SURVEY #1: FUTURE SOCIETY

Instructions: Please read before beginning questionnaire.

The following questionnaire is composed of a set of propositions about future society in the world and the United States in the decade of the 1980's. They are the result of intensive research of the futuristic literature. We need two opinions from you: (1) the likelihood that these events will come to pass in the decade of the 1980's, and (2) the impact they will have on education if they do come to pass.

1. Scoring. Two scales should be used for each statement. The Likelihood of Occurrence scale is in the left margin, and the Educational Impact scale is in the right margin. Please respond to both scales! See scales below:

Likelihood of Occurrence (at left)		Educational Impact (at right)
1 = low likelihood	(0-20% chance)	1 = low impact
2 = moderately low	(21-40%)	2 = moderately low
3 = average	(41-60%)	3 = medium
4 = moderately high	(61-80%)	4 = moderately high
5 = high likelihood	(81-100%)	5 = high impact

2. The time frame we are interested in is the decade of the 1980's. If you believe an event will have occurred by this time frame (1980-1990), your response on the Likelihood Scale should be a 4 or 5. If you believe an event will not occur, or will occur after 1990, your response should be a 1 or 2.

3. For the Impact Scale the question is, "If this event occurs, what impact will it have on education?". If a significant impact would result, enter 4 or 5. If, on the other hand, little or no impact would result, enter 1 or 2.

4. Optional: Where you rate a proposition as high in impact on education (scored 4 or 5), please jot down a word or phrase (below or to the right) to suggest the area or facet of education you feel will be affected (e.g., school taxes, finances, curriculum, attendance, accountability, etc.).

5. Comparative statements refer to the year 1973 unless otherwise specified.

6. Space is provided on the last page for your propositions. Please feel free to add to the list, scoring new statements in the same manner.

General Information: Please check (X) the appropriate spaces below.

Sex: Male _____, Female _____

Age: under 30 _____, 30-39 _____

40-49 _____, 50-up _____

Occupation: _____
(please specify)

Ethnic Group: _____
(optional)

SKYLINE WIDE EDUCATIONAL PLAN SURVEY #1: FUTURE SOCIETY

FORM A

LIKELIHOOD OF OCCURRENCE		IMPACT ON EDUCATION
	In the world, in the 1980's...	
____	1. Worldwide social change will be proceeding at a rate about the same as in the last 25 years (1948-1973).	____
____	2. The developed nations of the world will have reduced their per capita share of consumption of available world resources.	____
____	3. Little progress toward world government will have been made.	____
____	4. World population will have continued to increase, with the underdeveloped countries showing greater percentage gains than the developed countries.	____
____	5. Frequent crises and a rising level of tensions will characterize the world order.	____
____	6. There will not have been a major nuclear conflict.	____
____	7. Inflation will be continuing as a long-term trend in the world economy.	____
____	8. Worldwide efforts to reduce population growth and pollution will have been generally unsuccessful.	____
	In the United States, in the 1980's...	
____	9. Population of the U. S. will be larger.	____
____	10. Zero population growth will be a socially established goal.	____
____	11. The onset of old age (beginning of handicapping loss of powers) will occur later; as a result, the length of productive adult life will be greater.	____
____	12. The trend toward urbanization will have continued, so that fewer people (in numbers and percentage) will be living in rural America.	____
____	13. Racial integration will have increased.	____
____	14. Middle-class people will be returning to the central city to live.	____

LIKELIHOOD		IMPACT
	In the United States, in the 1980's...	
____	15. Increasing complexity of social institutions will demand longer periods of education to prepare competent citizens.	____
____	16. Useful and gratifying occupations will be available for persons unwilling or unable to master academic skills beyond a basic core of general studies.	____
____	17. Citizens of the U. S. will travel more often to other countries and will be more concerned with world problems.	____
____	18. Management of the chief institutions of the society will have become increasingly concentrated in the hands of an elite group of very intelligent, highly trained people.	____
____	19. Protection of the environment will be an accepted national goal.	____
____	20. Records relating to private concerns of individuals will be centralized and available to many persons and agencies, with resultant loss of privacy to the individual.	____
____	21. The role of government at all levels will be greater than it is today.	____
____	22. Regional systems of government which integrate the interests of several local governments will be in common use.	____
____	23. Many people will not believe or trust their leaders.	____
____	24. Governmental procedures for decision-making in environmental matters will have been established and perfected.	____
____	25. Self-government will be a cherished right of citizens.	____
____	26. Computerized simulation techniques, whose details are not comprehensible to most citizens, will be standard aids to decision-makers.	____
____	27. Small-group acts of terror will be more common.	____
____	28. Research in the social sciences will have produced powerful new tools that will be used in both the public and private sectors to enhance consensus decision-making.	____
____	29. The rate of change in the social context (i.e., in communications, housing and climate control, food production, fundamental processes of human society) will be reduced from the rate experienced in the period 1910-1970 (i.e., the "future shock" effect will be less).	____

LIKELIHOOD		IMPACT
	In the United States, in the 1980's...	
____	30. There will have been unexpected break-throughs in the physical sciences and technology, with potential for profound consequences for society (comparable, for example, to the discovery of penicillin, the development of the computer, and the birth-control pill).	____
____	31. Mass transportation will have been developed to a higher degree and will be in much more common use.	____
____	32. National library networks will be in operation.	____
____	33. Institutionalized research planning will direct technological advances toward socially desirable ends.	____
____	34. Economic and political power will be more concentrated and centralized at the national level.	____
____	35. It will be recognized that unlimited economic and material growth is not inherently good.	____
____	36. Production will be adjusted by government to levels consistent with national goals.	____
____	37. Operation round the clock, seven days a week, will be more common in social institutions such as the church, schools, child-care centers, etc.	____
____	38. A smaller proportion of the population will have incomes at or below subsistence levels.	____
____	39. Management will be much more dependent on information and on sophisticated analytic methods.	____
____	40. Corporations will give greater weight to employees' personal concerns in making personnel decisions.	____
____	41. There will be increased governmental control of the national economy.	____
____	42. Salvage and reclamation/recycling of irreplaceable raw materials and resources will have been greatly expanded.	____
____	43. There will be greater emphasis by government and private industry on increased productivity in agriculture and forestry.	____
____	44. The occupational distribution will have fewer blue-collar and more white-collar workers than at present.	____

LIKELIHOOD		IMPACT
	In the United States, in the 1980's...	
____	45. There will be fewer jobs for unskilled workers and laborers than there are today.	____
____	46. Differentiated staffing will be more common, with proportionately more jobs for paraprofessional personnel in fields like law, medicine, education, social service, and government.	____
____	47. Available jobs will have increased more in rural and suburban areas than in urban centers.	____
____	48. Level of skills needed for job entry will be higher.	____
____	49. Labor will be opposing the "educational apprenticeship".	____
____	50. The role of the school in vocational preparation will be to impart general work skills; specific job skills will be acquired on the job.	____
____	51. Flexible hours and part-time jobs will be much more widely available than at present.	____
____	52. Few occupations will be regarded as necessarily staffed by a particular sex.	____
____	53. Retirement at earlier ages than today will be financially possible for many workers.	____
____	54. A monetary value will be assigned to full-time housewife and child-care work so that women not employed outside the home may share in social insurance benefits.	____
____	55. Humane and socially oriented ways of treating others will be more needed and more socially rewarded.	____
____	56. Creativity and imaginative thinking will be highly prized by the socially powerful elite.	____
____	57. Conformity to socially accepted norms will be less valued by a majority of the population.	____
____	58. More people will reject the work ethic.	____
____	59. "Work or starve" will be less useful as a motivator for people to produce.	____
____	60. Organized religion will have diminished in influence.	____

LIKELIHOOD		IMPACT
	In the United States, in the 1980's...	
____	61. Schools will take a larger role in developing moral values in students.	____
____	62. Regulation of family size by various indirect means will be national policy.	____
____	63. Parents will be able to exercise less control over their adolescent children.	____
____	64. The percentage of the female population working for pay will have increased.	____
____	65. Child-care centers will be provided as a public service, funded by tax monies, for families of all income levels.	____
____	66. There will be a wide variety of family styles in addition to the traditional husband-wife-children family unit.	____
____	67. Paternity leave, as well as maternity leave, will be an established right of workers.	____
____	68. Use of drugs to improve intelligence and memory will be generally accepted.	____
____	69. Empirical research will have found more relationships between physiological variables and children's behavior.	____
____	70. Greater population density will be increasing emotional tensions and as a result there will be more mental illness.	____
____	71. Group tensions and hostilities will be on the increase in our national and community life.	____
____	72. Law and society will be more tolerant of variations in lifestyles.	____
____	73. More people will seek direct experiences to reduce the feeling of alienation from nature and of sensory deprivation.	____
____	74. Most people will feel a sense of depersonalization and loss of control over the conditions of their lives.	____
____	75. Student enrollment in public schools has been relatively stable in recent years; but enrollments will have resumed growing.	____

LIKELIHOOD		IMPACT
	In the United States, in the 1980's...	
____	76. Early childhood education will be provided for most children, beginning at age three or four, in a public facility (school, day-care center, or other).	____
____	77. The age of compulsory school attendance will be lowered from the present age (currently, in Texas, sixteen years of age).	____
____	78. Students will generally attend a neighborhood school at least through the third grade.	____
____	79. Education will be viewed as a very important function and have a level of tax-supported funding at least as high as in 1973.	____
____	80. The school curriculum will include instruction in skills for coping with a complex society.	____
____	81. A basic core of general education will be provided for all students.	____
____	82. The learner will be allowed more freedom in selecting his own educational program and modes of learning.	____
____	83. Ability to read will be less important as a tool for gaining information.	____
____	84. The basic studies will include instruction in acquiring, manipulating, and organizing facts and information.	____
____	85. Education in languages, world trade, and world history will be more in demand by students.	____
____	86. Learning opportunities for students will be provided throughout the community by business and social agencies, with the school serving as broker, to structure and coordinate the students' education.	____
____	87. Students will be paid a "training stipend" if they continue in school or in school-supervised work experience beyond the age of compulsory attendance.	____
____	88. Free public education will be a basic right of all citizens regardless of age.	____
____	89. Students beyond the compulsory school age will be able to withdraw and reenter public school freely until they have exhausted their educational guarantee (currently, in Texas, 13 years).	____

LIKELIHOOD | IMPACT

In the United States, in the 1980's...

____ 90. Instruction and organization in schools will avoid transmission of sex role stereotyping. ____

____ 91. State governments will have moved to assume a larger share of the costs of providing school facilities. ____

____ 92. A larger share of federal education funds will go to the states with the least taxable wealth per pupil. ____

ADDITIONAL PROPOSITIONS

You may have special knowledge or interests that suggest other propositions that have a high likelihood of occurrence and should be included. Please add them here and score as above. Use extra pages if you need more space.

____ 93. ____

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SKYLINE WIDE EDUCATIONAL PLAN SURVEY #1: FUTURE SOCIETY

FORM B

LIKELIHOOD OF OCCURRENCE | IMPACT ON EDUCATION

In the world, in the 1980's...

____ 1. The arms race will be continuing unabated. ____

____ 2. World resources, behavior, and opinion will have more influence on life in the U. S. ____

____ 3. Underdeveloped nations will be more nationalistic. ____

____ 4. Interests of elite groups throughout the world and of multi-national corporations will often cut across national interests. ____

____ 5. Disadvantaged people throughout the world will assert rising expectations of liberty and the pursuit of happiness and of a fair share of the material resources of the earth. ____

____ 6. Underdeveloped countries will control their natural resources. ____

____ 7. There will be world-wide recognition of the dangers of population growth and pollution of the biosphere. ____

____ 8. The United Nations will have persisted and its influence will be enlarged. ____

In the United States, in the 1980's...

____ 9. Minority groups will have improved their relative economic and social status. ____

____ 10. The rate of population growth will be sharply reduced. ____

____ 11. Average lifespan will have increased. ____

____ 12. The population will include a smaller percentage of children and a larger percentage of senior citizens. ____

____ 13. Population will cluster in and around some 20 to 30 large cities. ____

____ 14. Society will be more homogeneous, with less cultural and geographic diversity and less social stratification. ____

____ 15. Residential and work places will be located in close proximity to reduce transportation-related problems. ____

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LIKELIHOOD		IMPACT
	In the United States, in the 1980's...	
___	16. The increased complexity of society will cause an increasing number (and percentage) of people to be unable to master the knowledge and skill required to be fully functioning citizens (i.e., to earn a living, provide good parenting, vote intelligently).	___
___	17. It will be national policy to provide meaningful employment to all who wish to work.	___
___	18. A guaranteed minimum income will be provided by government to all who need it, without the test of willingness to work.	___
___	19. Social status will be less closely associated with ownership of material things.	___
___	20. It will be more difficult for individuals to arrange to be alone and unobserved.	___
___	21. New national mechanisms will have been created by the federal government for planning and regulation of health, social welfare, and education.	___
___	22. Individuals will have less respect for government, law, and other authority.	___
___	23. Ever-expanding and often contradictory information and news will cause more citizens to "tune out" the discussion and decisions of leaders.	___
___	24. Intellectuals, and information and planning experts will play a much more important role in shaping and leading public policy.	___
___	25. The need for depth, continuity, and balance in long-range planning will have led to regulatory mechanisms that are not under political control, so that important sectors of society will be ruled by a meritocracy.	___
___	26. Protest politics will be widely practiced and confrontation of opposing groups will often be violent.	___
___	27. Political and social pressures to improve the lot of the senior citizen will have increased.	___
___	28. Many political decisions will be made on the basis of ad hoc coalitions rather than traditional party alignment.	___
___	29. New information will be continuing to increase exponentially.	___

LIKELIHOOD		IMPACT
	In the United States, in the 1980's...	
___	30. Personal vehicles will be small and inexpensive enough for most adults to own one.	___
___	31. Information handling will be more automated.	___
___	32. Through developments in television, a large number of different channels will be received on home sets for purposes such as education, shopping, and community news.	___
___	33. Improved modes of dissemination will reduce the time lag between discovery and application of new technology.	___
___	34. Economic power will be continuing to shift from the private to the public sector.	___
___	35. Small businesses will fail or be absorbed by large corporations at about the same rate as now.	___
___	36. Operation round the clock, seven days a week, will be more common in manufacturing, retail, and service industries.	___
___	37. The gross national product will be slowing its rate of growth and approaching a stable state.	___
___	38. New technologies will have many complex consequences, requiring organized planning by the responsible authority to evaluate and direct their introduction.	___
___	39. In most institutions consensus and participatory management will be a preferred style.	___
___	40. As a result of government policy and public concern, our pollution problems will have diminished.	___
___	41. Shortages of various inputs (e.g., energy, material resources) will appear, often with little advance notice.	___
___	42. Business decision-making will place more emphasis on social and humane considerations.	___
___	43. Arrangements for joint husband/wife appointments will be more common in employment.	___
___	44. A higher proportion of the total labor force will be employed in pollution control and environmental protection activities.	___
___	45. A smaller proportion of the work force will be needed in goods-producing industries, while a larger proportion will be needed in the service industries.	___

LIKELIHOOD		IMPACT
	In the United States, in the 1980's...	
____	46. There will be more jobs for technicians than there are today.	____
____	47. More resources will be needed to meet the health and personal needs of senior citizens.	____
____	48. More job descriptions will require people with human skills, i.e., openness, compassion, warmth, and tolerance.	____
____	49. Economic organizations will be planned to include young persons and will be designed for educational as well as productive efficiency.	____
____	50. Average income of full-time female workers will be below that of male workers, but the differential will be less.	____
____	51. Certification by demonstration of skills rather than by diploma, degree, or completion of prescribed training sequences will be in wide use and generally accepted in education, professional, and business practice.	____
____	52. A shorter work week and more leisure time will be the rule for most workers	____
____	53. Productivity of workers in both service and goods-producing industries will have increased.	____
____	54. Compulsory retirement at a set age will be enforced regardless of health, ability, or desire of the worker.	____
____	55. Esthetic and intuitive elements of thought will be valued along with the rational and theoretic, as valid ways to apprehend reality.	____
____	56. Capacity for self-direction and self-motivation in individuals will be more necessary than at present.	____
____	57. The "good life" will not be so easily defined as it is today.	____
____	58. More people will reject "useful work" as a necessary part of the "good life".	____
____	59. Hedonism will be the basic philosophy of life for more people of all social classes.	____
____	60. Sexual relationships of varied types will be openly acknowledged and more generally tolerated.	____
____	61. Traditional families in the United States will be smaller.	____
____	62. Parents and children will be in better, more open communication with each other.	____

LIKELIHOOD		IMPACT
	In the United States, in the 1980's...	
____	63. Child-care centers will be much more numerous than at present.	____
____	64. Most child-care centers will provide developmental and educational components for children.	____
____	65. A higher percentage of mothers of young children will work outside the home.	____
____	66. Many couples will divide bread-winning, household, and child-care duties on grounds other than sex.	____
____	67. Drugs will be widely used to enhance learning.	____
____	68. Chemical control of senility will be possible, so that the "middle" years of ability to be active and useful will be extended.	____
____	69. It will be possible to achieve chemical control of many undesirable negative, primitive, and aggressive behavioral tendencies in man.	____
____	70. The society will be more pluralistic, with people insisting on individually selected, widely varying lifestyles.	____
____	71. Self-identity for many people will be defined less in terms of occupation or locale and more in terms of tastes, interests, or skills.	____
____	72. Most people will have a basic faith in the future and will be less disturbed about a possible "war of annihilation".	____
____	73. There will be a greater consensus on standards of personal morality (e.g., respect for rights of others, honesty in money matters, and fidelity to trust.)	____
____	74. The levels of literacy and education in the population will have risen.	____
____	75. At present a specified number of years of free public education (elementary and secondary) is guaranteed to every individual (in Texas, 13 years); one or more years will be added to this period.	____
____	76. Turmoil over desegregation will have largely subsided.	____
____	77. There will be schools of many sorts with widely varying methods and organizational styles. Public schools will offer choices and students will be free to select the program and style of instruction they prefer.	____

LIKELIHOOD		IMPACT
	In the United States, in the 1980's...	
____	78. Educational systems will reflect larger interest groupings (counties, regions, etc.) than at present.	____
____	79. There will be a higher level of social consensus on the desired goals of the schools.	____
____	80. Modes of teaching and learning will be more flexible, utilizing computer-assisted, multisensory and yet-to-be-developed forms of instruction.	____
____	81. There will be national standards for curriculum in the basic general studies offered to all students.	____
____	82. More students will learn to see themselves as "OK", as unique and valuable persons with roles now and in the future and with the ability to shape their own futures.	____
____	83. Basic computational skills will be de-emphasized because personal calculators will be in widespread use.	____
____	84. Futuristic studies will be part of the curriculum.	____
____	85. Career education and work experience will be available for all students at some time during their public school experience.	____
____	86. Computer simulation, games, etc., will permit the student to practice career and management activities, in order to help him choose his adult role.	____
____	87. Education will continue throughout life, to meet changing personal and occupational needs, with many institutions providing it in a variety of ways.	____
____	88. Rapid changes in technology will cause many people to retrain frequently and often shift occupations.	____
____	89. All curriculum areas and school facilities will be either integrated or equally available to both sexes, with equal levels of funding.	____
____	90. State support of public schools will have been adjusted to provide for equalized educational opportunities for all pupils within all school districts and to equalize property tax burdens among the respective school districts of the state.	____
____	91. The federal government will be providing a significantly increased proportion of the total funds for operating the public schools of the nation.	____
____	92. Learning theory and teaching methods will have made major advances so that students will be able to learn more in less time.	____

Results

The Results are arranged in five subsections as follows: High Likelihood of Occurrence, Low Likelihood of Occurrence, High Educational Impact, Low Educational Impact, and High Likelihood - High Impact. The circled numbers, e.g., (A-6), identify propositions in violation of the standard deviation criterion; hence, these propositions experienced greater response variation than allowed. The asterisks identify propositions for which there were differences of opinion between subsample units, viz; outsiders, insiders, educators, local leaders, futurists, urban school executives, and suburban school executives. For these propositions, the deviant subsamples are identified and their mean scores reported. Eventhough subsample analyses are addressed herein, the primary focus of this evaluation report is the sample in toto. Additional analyses, however, are desirable and encouraged; consequently, the master data tables have been appended. See Appendix D.

High Likelihood of Occurrence (See high likelihood matrices, Figures 3.0 & 3.1)

The following criteria were invoked to identify the "highly likely" propositions:

1. The mean is equal to, or greater than, 4.0.
2. The mean minus one standard deviation is equal to, or greater than, 3.0.
3. The mode is equal to, or greater than, 4.0.

Conforming to the above decision rules, the following social events -- identified by questionnaire format and response item number -- were considered highly likely to occur in the decade of the 1980's:

A- 4. World population will have continued to increase, with the underdeveloped countries showing greater percentage gains than the developed countries.

* (A- 6) There will not have been a major nuclear conflict. (Suburban Educator 3.2)

A- 7. Inflation will be continuing as a long-term trend in the world economy.

A- 9. Population of the U.S. will be larger.

* A-13. Racial integration will have increased. (Suburban Educators 3.7)

High Likelihood of Occurrence con't.

A-19. Protection of the environment will be an accepted national goal.

A-30. There will have been unexpected break-throughs in the physical sciences and technology, with potential for profound consequences for society (comparable, for example, to the discovery of pencillin, the development of the computer, and the birth-control pill).

A-31. Mass transportation will have been developed to a higher degree and will be in much more common use.

A-42. Salvage and reclamation/recycling of irreplaceable raw materials and resources will have been greatly expanded.

A-46. Differentiated staffing will be more common, with proportionately more jobs for paraprofessional personnel in fields like law, medicine, education, social service and government.

* A-51. Flexible hours and part-time jobs will be much more widely available than at present. (Urban Educators 3.3, Suburban Educators 3.1)

* A-52. Few occupations will be regarded as necessarily staffed by a particular sex. (Suburban Educators 3.6)

A-53. Retirement at earlier ages than today will be financially possible for many workers.

* A-64. The percentage of the female population working for pay will have increased. (Suburban Educators 3.7)

* A-76. Early childhood education will be provided for most children, beginning at age three or four, in a public facility (school, day-care center, or other). (Suburban Educators 3.7)

A-79. Education will be viewed as a very important function and have a level of tax-supported funding at least as high as in 1973.

A-80. The school curriculum will include instruction in skills for coping with a complex society.

A-81. A basic core of general education will be provided for all students.

A-82. The learner will be allowed more freedom in selecting his own educational program and modes of learning.

* B- 2. World resources, behavior, and opinion will have more influence on life in the U.S. (Urban Educators 3.2)

* B- 5. Disadvantaged people throughout the world will assert rising expectations of liberty and the pursuit of happiness and of a fair share of the material resources of the earth. (Educators 3.5)

B-11. Average lifespan will have increased.

High Likelihood of Occurrence con't.

B-12. The population will include a smaller percentage of children and a larger percentage of senior citizens.

B-21. New national mechanisms will have been created by the federal government for planning and regulation of health, social welfare, and education.

* B-27. Political and social pressures to improve the lot of the senior citizen will have increased. (Urban Educators 3.6)

* B-29. New information will be continuing to increase exponentially. (Educator 3.6)

B-31. Information handling will be more automated.

B-32. Through developments in television, a large number of different channels will be received on home sets for purposes such as education, shopping, and community news.

B-45. A smaller proportion of the work force will be needed in goods-producing industries, while a larger proportion will be needed in the service industries.

* B-46. There will be more jobs for technicians than there are today. (Outsiders 3.7)

B-47. More resources will be needed to meet the health and personal needs of senior citizens.

B-52. A shorter work week and more leisure time will be the rule for most workers.

* B-61. Traditional families in the United States will be smaller. (Urban Educators 3.6)

B-63. Child-care centers will be much more numerous than at present.

B-64. Most child-care centers will provide developmental and educational components for children.

* B-65. A higher percentage of mothers of young children will work outside the home. (Educators 3.7)

* B-74. The levels of literacy and education in the population will have risen. (Suburban Educators 3.7)

B-80. Modes of teaching and learning will be more flexible, utilizing computer-assisted, multisensory and yet-to-be-developed forms of instruction.

* B-85. Career education and work experience will be available for all students at some time during their public school experience. (Futurists 3.5)

High Likelihood of Occurrence con't.

B-87. Education will continue throughout life, to meet changing personal and occupational needs, with many institutions providing it in a variety of ways.

* These events were not perceived as highly likely to occur by one or more identified subsamples. The circled numbers indicate a violation of the standard deviation rule.

Low Likelihood of Occurrence (See low likelihood matrices, Figures 3.2 & 3.3)

Criteria invoked for identifying unlikely (low likelihood of occurrence) social events were:

1. The mean is equal to, or less than, 2.7.
2. The mean plus one standard deviation is equal to, or less than, 4.0.
3. The mode is equal to, or less than, 3.0.

The following social events were considered unlikely to occur in the 1980's:

* A-14. Middle-class people will be returning to the central city to live. (Local Leaders 3.1, Futurists 3.2)

A-29. The rate of change in the social context (i.e., the "future shock" effect) will be less.

A-68. Use of drugs to improve intelligence and memory will be generally accepted.

A-83. Ability to read will be less important as a tool for gaining information.

B-19. Social status will be less closely associated with ownership of material things.

* B-25. The need for depth, continuity, and balance in long-range planning will have led to regulatory mechanisms that are not under political control, so that important sectors of society will be ruled by a meritocracy. (Suburban Educators 3.2)

* B-26. Protest politics will be widely practiced and confrontation of opposing groups will often be violent. (Suburban Educators 3.3)

B-36. Operation round the clock, seven days a week, will be more common in manufacturing, retail and service industries.

B-58. More people will reject "useful work" as a necessary part of the "good life".

Low Likelihood of Occurrence con't.

B-59. Hedonism will be the basic philosophy of life for more people of all social classes.

B-67. Drugs will be widely used to enhance learning.

* B-68. Chemical control of senility will be possible, so that the "middle" years of ability to be active and useful will be extended. (Futurists 3.2, Suburban Educators 3.2)

* The subsamples identified in the parentheses above thought these events more likely to occur than their counterparts.

High Educational Impact (See high impact matrices, Figures 3.4 & 3.5)

The following events would have great impact on education if they occurred.

Criteria invoked for this category were:

1. The mean is equal to, or greater than, 4.0.
2. The mean minus one standard deviation is equal to, or greater than, 3.0.
3. The mode is equal to, or greater than, 4.0.

This category includes the following societal propositions:

A-46. Differentiated staffing will be more common, with proportionately more jobs for paraprofessional personnel in fields like law, medicine, education, social service, and government.

A-76. Early childhood education will be provided for most children, beginning at age three or four, in a public facility (school, day-care center, or other).

* A-80. The school curriculum will include instruction in skills for coping with a complex society. (Local Leaders 3.7)

* B- 2. World resources, behavior, and opinion will have more influence on life in the U.S. (Futurists 3.5)

* B- 9. Minority groups will have improved their relative economic and social status. (Educators 3.5)

* (B-10) The rate of population growth will be sharply reduced. (Outsiders 3.7, Futurists 3.2)

* B-29. New information will be continuing to increase exponentially. (Educator 3.5)

B-32. Through developments in television, a large number of different channels will be received on home sets for purposes such as education, shopping, and community news.

High Educational Impact con't.

B-46. There will be more jobs for technicians than there are today.

* B-64. Most child-care centers will provide developmental and educational components for children. (Urban Educators 3.6)

B-74. The levels of literacy and education in the population will have risen.

B-77. There will be schools of many sorts with widely varying methods and organizational styles. Public schools will offer choices and students will be free to select the program and style of instuction they prefer.

B-80. Modes of teaching and learning will be more flexible, utilizing computer-assisted, multisensory and yet-to-be-developed forms of instruction.

B-85. Career education and work experience will be available for all students at some time during their public school experience.

B-87. Education will continue throughout life, to meet changing personal and occupational needs, with many institutions providing it in a variety of ways.

B-88. Rapid changes in technology will cause many people to retrain frequently and often shift occupations.

* These events received mean scores from some subsamples units of less than the required 4.0; thus, they were considered less than high impact laden by some factions of the respondent group. The circled number indicates a violation of the standard deviation rule.

Low Educational Impact (See low impact matrices, Figures 3.6 & 3.7)

The following criteria were invoked for identifying propositions in this category:

1. The mean is equal to, or less than, 2.7.
2. The mean plus one standard deviation is equal to, or less than, 4.0.
3. The mode is equal to, or less than, 3.0.

The following events would have little impact on education if they occurred:

A- 3. Little progress toward world government will have been made.

A- 6. There will not have been a major nuclear conflict.

A-20. Records relating to private concerns of individuals will be centralized and available to many persons and agencies, with resultant loss of privacy to the individual.

Low Educational Impact con't.

A-24. Governmental procedures for decision-making in environmental matters will have been established and perfected.

* A-27. Small-group acts of terror will be more common. (Urban Educators 4.3)

* A-36. Production will be adjusted by government to levels consistent with national goals. (Suburban 3.1)

A-40. Corporations will give greater weight to employees' personal concerns in making personnel decisions.

A-54. A monetary value will be assigned to full-time housewife and child-care work so that women not employed outside the home may share in social insurance benefits.

A-60. Organized religion will have diminished in influence.

A-66. There will be a wide variety of family styles in addition to the traditional husband-wife-children family unit.

A-67. Paternity leave, as well as maternity leave, will be an established right of workers.

* A-68. Use of drugs to improve intelligence and memory will be generally accepted. (Outsider 3.1, Futurists 3.3, Local Leaders 3.0)

* B- 3. Underdeveloped nations will be more nationalistic. (Local Leaders 3.5)

B- 8. The United Nations will have persisted and its influence will be enlarged.

B-19. Social status will be less closely associated with ownership of material things.

B-30. Personal vehicles will be small and inexpensive enough for most adults to own one.

B-35. Small businesses will fail or be absorbed by large corporations at about the same rate as now.

B-36. Operation round the clock, seven days a week, will be more common in manufacturing, retail, and service industries.

B-43. Arrangements for joint husband/wife appointments will be more common in employment.

* (B-54) Complusory retirement at a set age will be enforced regardless of health, ability, or desire of the worker. (Local Leader 3.2, Urban Educators 3.0)

* (B-67) Drugs will be widely used to enhance learning. (Educator 3.3, Futurist 3.2, Outsider 3.0)

Low Educational Impact con't.

B-68. Chemical control of senility will be possible, so that the "middle" years of ability to be active and useful will be extended.

* B-69. It will be possible to achieve chemical control of many undesirable, negative, primitive, and aggressive behavioral tendencies in man. (Educator 3.3)

* These events, as indicated by the mean scores, were judged by some to have more than low impact for education if and when they occur. The circled numbers indicate violations of the standard deviation rule. (see decision rules)

High Likelihood - High Impact (See associated matrices, Figures 3.8 & 3.9)

Of primary interest in this inquiry were the societal propositions that received high scores on both scales -- likelihood and impact. For these propositions, all criteria for each variable were satisfied (see decision rules number 1. and 3., page 8). Using the above referenced criteria, the following societal propositions were considered both likely to occur and high impact laden:

A-46. Differentiated staffing will be more common, with proportionately more jobs for paraprofessional personnel in fields like law, medicine, education, social service, and government.

* A-76. Early childhood education will be provided for most children, beginning at age three or four, in a public facility (school, day-care center, or other). (Suburban Educators 3.7 Likelihood)

* A-80. The school curriculum will include instruction in skills for coping with a complex society. (Local Leaders 3.7 Likelihood, Local Leaders 3.7 Impact)

* B- 2. World resources, behavior, and opinion will have more influence on life in the U.S. (Urban Educators 3.2 Likelihood, Futurists 3.5 Impact)

* B-29. New information will be continuing to increase exponentially. (Urban Educators 3.4 Likelihood, Urban Educators 3.2 Impact)

B-32. Through developments in television, a large number of different channels will be received on home sets for purposes such as education, shopping, and community news.

* B-46. There will be more jobs for technicians than there are today. (Outsiders 3.7 Likelihood)

* B-64. Most child-care centers will provide developmental and educational components for children. (Urban Educators 3.6 Impact)

High Likelihood - High Impact con't.

* B-74. The levels of literacy and education in the population will have risen. (Suburban Educators 3.7 Likelihood)

B-80. Modes of teaching and learning will be more flexible, utilizing computer-assisted, multisensory and yet-to-be-developed forms of instruction.

* B-85. Career education and work experience will be available for all students at some time during their public school experience. (Outsider 3.7 Likelihood, Futurists 3.5 Likelihood)

B-87. Education will continue throughout life, to meet changing personal and occupational needs with many institutions providing it in a variety of ways.

* The asterisks, in this instance, identify the deviant subsample units, and the violated scales, i.e., likelihood or impact.

Interpretations and Discussion

In an effort to present a meaningful Interpretations and Discussion section relative to the findings of this study, five brief scenarios (portraits of future time periods) were formulated from the results of the propositional inventory (SWEP Survey #1: Future Society); viz, (1) population, (2) life style, (3) technology, (4) careers, and (5) education. Hence, the following narrative focuses on these general themes.

Population:

The world's population will increase, with the "3rd world" (underdeveloped) nations experiencing the largest gains. In the United States, the overall population will increase, with most of the gains attributable to senior citizens and minorities -- especially blacks. The traditional white middle and upper class ("WASP") segment will have fewer children per family; hence, their proportion of the total population will shrink. Even though we are entering a period of scarce resources, the federal government is not likely to enact policy to control family size, and zero population growth will probably not be a socially established goal. The middle-class whites will continue to move out of densely populated urban centers leaving them inhabited, for the most part, by ethnic minority populations and the poor. Student enrollments are not expected to resume growing again in the 1980's, however, there will be continual internal enrollment shifts with which to deal.

Life Style:

Life style in the 1980's will be characterized by a shorter work week, more leisure time, less sex role stereotyping as prerequisite for particular jobs, and earlier retirements. The traditional work ethic will remain a dominant value, although hedonism will be more tolerated. Society will be increasingly complex and pluralistic with more social stratification than we experience presently.

Scarce resources will cause us to modify our general consumption practices, and modes of transportation (away from almost complete dependence on the automobi in favor of mass transit systems). There will be greater control exercised by the federal government in most areas; especially in health, social welfare, and education.

Mental illness resulting from greater population density is not expected to increase dramatically, nor are group tensions and hostilities expected to increase significantly from today.

Technology:

American technological advances will continue, especially in the development and applications of television and computers. These and similar electronic devic will continue to revolutionize the major communicative processes; e.g., storing processing, retrieving, and disseminating of information.

The lives of all Americans will be greatly influenced and, to some degree, controlled by increased applications of the computer, i.e., banking, credit cards drivers licenses, etc., consequently, a "computer ethic" is certain to evolve as was the case with movies and television.

The age of scarce resources will direct our efforts toward the reclamation of the world's finite resources, and to the development of alternative energy sources.

Careers:

We can expect a gradual transition from a "goods"-producing economy to a "service"-producing economy, with new paraprofessional roles in the fields of medicine, law, education, and other social services. More technicians will be needed, especially in electronics and allied fields. New careers will

blossom as a result of a multitude of services needed by an expected increase of senior citizens in the population, earlier entrance in school and/or child-care centers, and an expanded role by the federal government.

Age will be less instrumental in forcing retirement than now, owing to longer life expectancy and more senior citizen political clout. We can expect several (two or three) careers in a normal lifetime. There will be more part-time work, and greater flexibility in working hours. The largest employers will remain in and around densely populated urban centers.

More women and mothers will be in the work force, and occupational and family roles will be less stereotypic.

Education:

A high value will be placed on education in the 1980's, with a level of financial support at least as high as it is now. There will not be universal consensus regarding the goals of our public educational institutions, with the exception of providing quality programs in the basic skill areas: e.g., communication (reading, writing, listening, and speaking); computation (basic fundamentals of mathematics such as addition, subtraction, multiplication, division, fractions and decimals); basic fundamentals of science; and possibly, thinking and reasoning. The federal government will play a larger role in public education, and it will contribute a greater proportion of the resources than at present; however, a nationally standardized curriculum will be strongly resisted by the states.

Early childhood and continuing (adult) education are likely to burgeon in the 1980's; especially if one subscribes to the propositions: more leisure time, more women in the work force, changing occupational roles, and longer life expectancy. Even though the total patronage of the public schools is apt to increase dramatically (owing to early childhood and adult education), the traditional K-12 public school enrollments are not likely to increase; rather, schools will be plagued by continual internal population shifts.

Major educational innovations will likely include: various computer applications, multisensory modes of instruction, humanization of the school environment with more student choices, and career education at all levels K-12 (predominantly in secondary schools).

Unlikely events. Some propositions that were thought unlikely to occur in the decade of the 1980's were: hedonism (the doctrine that pleasure and happiness is the sole or chief good in life), chemotheraphy (the use of drugs to increase learning and/or control divergent behavior), world government, guaranteed minimum income, round-the-clock operation in public and private enterprise, return of the middle-class from the suburbs to the city, and public schools engaging in programs to develop moral and spiritual values.

Summary of the write-in comments. The foci of this brief summary are the areas and/or facets of education thought most likely to be affected resulting from the occurrence of specific events.

There are surely undeterminable implications for education that might result owing to the occurrence of these events; one's imagination can conjure up unlimited possibilities. However, when the panel was asked to speculate the first order consequences (the most obvious) the following notions -- in order of frequency -- recurringly appeared: (1) increased costs for education, (2) massive curriculum reform, (3) changing teacher role, (4) changing teacher training programs, (5) changing teacher selection practices, (6) changing teacher staffing patterns (differentiate staff to include technical and clerical support), and (7) more flexible facility design to accommodate new programs, viz: early childhood, adult, career, computer, and multisensory.